REMARKS

In accordance with the foregoing, claims 1, 3, and 5 have been amended, claim 17 has been canceled without prejudice or disclaimer, and new claim 21 has been added. Claims 1-16 and 18-21 are pending, with claims 1, 11, and 21 being independent. Claims 1-20 were under consideration as being generic. New claim 21 is generic. No new matter is presented in this Amendment.

Allowable Subject Matter

Claims 8, 17, and 18 were objected to as being dependent upon a rejected base claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowable claim 17 has been canceled, and independent claim 1 from which allowable claim 17 depended has been amended to include all of the limitations of allowable claim 17. Accordingly, it is submitted that amended independent claim 1 presented in this Amendment is equivalent to allowable claim 17 being rewritten in independent form as suggested by the Examiner. Claims 3 and 5 depending from claim 1 have been amended to be consistent with the changes made to claim 1. Accordingly, it is submitted that independent claim 1 and claims 2-10 depending therefrom are now in condition for allowance, and an indication to that effect is requested. It is noted that claim 8 depending indirectly from claim 1 recites subject matter that is allowable in its own right independent of the changes made to claim 1 as recognized by the Examiner.

Claim Rejections Under 35 USC 102

Claims 1, 2, 4-7, 9, and 10 were rejected under 35 USC 102(b) as being anticipated by Seo et al. (Seo) (U.S. Patent Application Publication No. 2004/0146744 A1). This rejection is respectfully traversed.

The U.S. filing date of Seo is July 21, 2003, which is after the filing date of February 3, 2003, of Korean Application No. 2003-6617, the Korean priority application of the present application. A certified copy of the Korean priority application was submitted on January 15,

2004, and receipt of the certified copy was acknowledged by the Examiner in the Office Actions of April 21, 2006, September 13, 2006, and September 25, 2006.

Pursuant to 37 CFR 1.55(a)(4) and MPEP 201.15, the applicant could file an English translation of Korean Application No. 2003-6617 and a statement that the English translation is accurate to perfect the applicant's claim for foreign priority under 35 USC 119(a)-(d) and remove the availability of Seo as a reference against the claims of the present application. However, the applicant considers this to be unnecessary because, as discussed above, independent claim 1 has been amended to include all of the limitations of allowable claim 17 which has been canceled, such that independent claim 1 and claims 2-10 depending therefrom are now in condition for allowance.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 1, 2, 4-7, 9, and 10 under 35 USC 102(b) as being anticipated by Seo be withdrawn.

Claim Rejections Under 35 USC 103

Rejection 1

Claims 1-5 were rejected under 35 USC 103(a) as being unpatentable over JP 2000-150169 in view of Fujita et al. (Fujita) (EP 1017118 A2). This rejection is respectfully traversed. The copy of JP 2000-150169 provided by the Examiner includes the Japanese reference itself, an English abstract of the Japanese reference obtained from Derwent, and a machine translation of the Japanese reference.

It is noted that the Examiner has relied on Fujita only to show the feature recited in claim 2 depending from independent claim 1. Accordingly, it is not apparent why the Examiner has relied on Fujita in the rejection of claim 1 and claims 3-5 depending from claim 1.

In any event, as discussed above, independent claim 1 has been amended to include all of the limitations of allowable claim 17 which has been canceled, such that independent claim 1 and claims 2-10 depending therefrom are now in condition for allowance.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 1-5 were rejected under 35 USC 103(a) as being unpatentable over JP 2000-150169 in view of Fujita be withdrawn.

Rejection 2

Claims 11-16, 19, and 20 were rejected under 35 USC 103(a) as being unpatentable over Fujita et al. (Fujita) (EP 1017118 A2), with the Examiner relying on Kobori et al. (Kobori) (U.S. Patent Application Publication No. 2002/0038867) to shown that a certain characteristic is allegedly inherent in Fujita. This rejection is respectfully traversed.

It is submitted that Fujita does not disclose or suggest "an electron injection layer" as recited in independent claim 11 or the feature of claim 11 "wherein the at least one layer selected from the hole-blocking layer and the electron injection layer comprises an electron donor material" because it is not seen where any of FIGS. 1-14 of Fujita or any other portion of Fujita discloses "an electron injection layer" as recited in claim 11, and the only layers disclosed in Fujita as comprising "an electron donor material" as recited in claim 11 are electron transporting layer 71 in FIGS. 5-12 and 14 of Fujita which comprises the donor 27 described in paragraph [0075] on page 8 of Fujita, and the electron transporting layer in Comparative Examples 7-8 and 10-13 and Examples 13-27 described on pages 18-30 of Fujita which comprises the donor triphenylamine (TPA), perylene, or N,N'-di-(4-methyl-phenyl)-N,N'-diphenyl-1,4-phenylenediamine (MPPD).

The above arguments were also presented in the Amendment of July 20, 2006. In response to these arguments the Examiner states as follows in the Office Action of September 25, 2006:

> Fujita et al. teaches . . . [b]etween the light emitting layer and the cathode is an electron transporting layer containing and electron transporting material and a donor. (See Abstract). Electron transporting material blocks holes, so this layer is deemed to read upon a "hole blocking layer" (see remarks in "Response to Arguments" section below for further clarification).
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> . . . .
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> . . . Fujita does not expressly use the term "hole blocking" to describe the electron transport layer; however, it is well known in the art that electron transporting materials have the inherent property of blocking holes [see Kobori (US PGPub 2002/0038867), par. 192].

Kobori is a massive reference containing 308 pages. The only portions of Kobori that appear to be relevant to the issue at hand are paragraph [0101] on pages 11-12 of Kobori, which reads as follows in pertinent part (emphasis added):

> [0101] The light emitting layer has functions of injecting holes and electrons, transporting them, and recombining holes and electrons to create excitons. Those compounds which are bipolarly (to electrons and holes) stable and produce a high fluorescence intensity are preferably used in the light emitting layer. The hole injecting and transporting layer has functions of facilitating injection of holes from the anode, transporting holes in a stable manner, and obstructing electron transportation. The electron injecting and transporting layer has functions of facilitating injection of electrons from the cathode, transporting electrons in a stable manner, and obstructing hole transportation. These layers are effective for confining holes and electrons injected into the light emitting layer to increase the density of holes and electrons therein for establishing a full chance of recombination, thereby optimizing the recombination region to improve light emission efficiency.

and paragraph [0192] of Kobori relied on by the Examiner, which reads as follows (emphasis added):

> [0192] To prevent the punch-through of the respective carriers from the light emitting layer, the electron blocking function of the hole transporting layer and the hole blocking function of the electron transporting layer are also effective for efficiency improvement. Furthermore, since the respective blocking layers become recombination and luminescent points in a construction having a plurality of light emitting layers, these functions are important in designing bipolar light emitting layers so that a plurality of light emitting layers may emit light.

As the applicant understands the rejection, the Examiner is of the opinion that electron transporting layer 71 comprising donor 27 shown in FIGS. 5-12 and 14 of Fujita inherently blocks holes based on the reference to "the hole blocking function of the electron transporting layer" in paragraph [0192] of Kobori, and therefore Fujita's electron transporting layer 71 comprising donor 27 is "a hole blocking layer [that] comprises an electron donor material" as recited in claim 11. Thus, the Examiner has interpreted the term "hole blocking layer" recited in claim 11 to mean "electron transporting layer."

However, it is submitted that the Examiner's interpretation is prohibited by MPEP 2111 which provides that "[d]uring patent examination, the pending claims must be 'given their

broadest reasonable interpretation consistent with the specification.'" See MPEP page 2100-37. MPEP 2111.01(I) states that "[t]his means that the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. See MPEP page 2100-38. MPEP 2111.01(III) states that **"'PLAIN MEANING' REFERS TO THE ORDINARY AND CUSTOMARY MEANING GIVEN TO THE TERM BY THOSE OF ORDINARY SKILL IN THE ART,"** and "[t]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application." See MPEP page 2100-39.

Here, it submitted that the meaning "electron transporting layer" attributed by the Examiner to the term "hole blocking layer" recited in claim 11 is inconsistent with the specification of the present application in which these terms describe two different layers. See, for example, amended FIG. 3 submitted with the Amendment of July 20, 2006, which shows an electron injection layer and/or electron transport layer 304, and a hole blocking layer 306, and paragraph [0029] of the specification which refers to "forming one or more layers of HBL 306, ETL 304 and HBL 306 +ETL 304," wherein "HBL 306" refers to hole blocking layer 306 in FIG. 3 and "ETL 304" refers to electron transport layer 304 in FIG. 3.

Also, it is submitted that one of ordinary skill in the art would have understood the terms "electron transporting layer" and "hole blocking layer" to mean two different layers. This is readily apparent from Fujita which uses the term "hole injection restraining layer" to mean "hole blocking layer." According to paragraph [0032] on page 5 of Fujita, "the hole injection restraining [i.e., hole blocking] layer is formed between the light emitting layer and the electron transporting layer." FIGS. 5-12 of Fujita show a hole injection restraining [i.e., hole blocking] layer 6 formed between a light emitting layer 51 or 52 and an electron transporting layer 71. This is similar to the arrangement shown in amended FIG. 3 of the present application which shows a hole blocking layer 306 formed between an emitting layer 308 and an electron injection layer and/or electron transport layer 304.

Furthermore, in light of the fact that dependent claim 18 depending from claim 11 recites that "the multiple organic film layers further comprise an electron transport layer" and that "the electron transport layer comprises an electron donor material" it is submitted that the Examiner is precluded by the doctrine of claim differentiation from interpreting the term "hole blocking layer" recited in claim 11 to mean "electron transporting layer." The doctrine of claim

differentiation "normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend." See *Nazomi v. ARM*, 403 F.3d 1364, 1370 (Fed. Cir 2005). Here, since dependent claim 18 recites the limitation of "an electron transport layer," under the doctrine of claim differentiation, it is submitted that the Examiner cannot interpret independent claim 11 from which dependent claim 18 depends as also reciting this limitation.

For at least the foregoing reasons, it is submitted that the Examiner's interpretation of the term "hole blocking layer" recited in claim 11 to mean "electron transporting layer" is improper, such that Fujita's electron transporting layer 71 comprising donor 27 is not "a hole blocking layer [that] comprises an electron donor material" as recited in claim 11 as alleged by the Examiner.

Accordingly, it is submitted that It is submitted that Fujita does not disclose or suggest "an electron injection layer" as recited in claim 11 or the feature of claim 11 "wherein the at least one layer selected from the hole-blocking layer and the electron injection layer comprises an electron donor material" for the reasons discussed above at the beginning of this discussion.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 11-16, 19, and 20 (i.e., claim 11 discussed above and claims 12-16, 19, and 20 depending therefrom) under 35 USC 103(a) as being unpatentable over Fujita be withdrawn.

Patentability of New Claim 21

It is submitted that Seo, JP 2000-150169, Fujita, and Kobori do not disclose or suggest the feature "wherein the multiple organic film layers comprise: an emitting layer; a hole-blocking layer; an electron transporting layer; and an electron injection layer comprising an electron donor material" recited in new independent claim 21.

For at least the foregoing reasons, it is submitted that new claim 21 is patentable over Seo, JP 2000-150169, Fujita, and Kobori, and an indication to that effect is respectfully requested.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with the filing of this paper, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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Date: 12/22/06

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